CLAIMS

What is claimed is:

1. A method of searching a file access system for a requested file, comprising:

    allocating memory for directory cache and buffer cache, the directory cache storing directory layouts;

    searching the directory cache for a requested file; and

    pointing to where the name of the requested file is stored.

2. A method of searching a file access system according to claim 1, further comprising conventionally searching file structures when the directory cache is not found.

3. A method of searching a file access system according to claim 1, wherein the step of allocating memory for directory cache includes selecting directories to cache using at least one of the number of files in a directory and the frequency of use.

4. A method of accessing files in a file access system, comprising:

    reading a directory into buffer cache, the directory having a storage device representation;

    converting the directory from the storage device representation to a faster representation, the faster representation representing a layout of the directory; and

    searching the faster representation for a requested file;

    wherein the storage device representation is maintained for backwards compatibility with pre-existing and older file access systems.

5. A method of accessing files in a file access system, comprising:

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reading a directory into buffer cache, the directory having a storage device representation;

converting the directory to a faster representation, the faster representation including a pointer from a directory i-node to an associated hash table, the hash table containing a layout of the directory; and

searching the faster representation for a requested file;

wherein the storage device representation is maintained for backwards compatibility with pre-existing file access systems.

6. A method of accessing files according to claim 5, further comprising hashing selected directories into a hash table format.

7. A method of accessing files according to claim 5, further comprising hashing selected directories into a hash table format according to a size of the directory.

8. A method of accessing files according to claim 5, further comprising hashing selected directories into a hash table format according to frequency of access.

9. A method of accessing files according to claim 5, further comprising hashing selected directories into a hash table format according to a user selected criteria.

10. A method of searching a file access system for a requested file, comprising:

allocating a hash table, the hash table having hash buckets;

hashing a directory into the hash table;

establishing a pointer for the directory, the pointer pointing from a directory i-node to the hash table; and

searching the hash buckets for a requested file.

11. A method of searching a file access system according to claim 10, wherein the step of hashing a directory includes hashing selected directories into a hash table format according to a size of the directory.

12. A method of searching a file access system according to claim 10, wherein the step of hashing a directory includes hashing selected directories into a hash table format according to frequency of access.

13. A method of searching a file access system according to claim 10, further comprising linking hash buckets to offsets where a name of the requested file is stored.

14. A computer server system, comprising:

an outer cabinet housing memory, an array of storage devices, at least one power supply providing electrical power to the computer server system, and

at least one processor allocating memory for buffer cache and directory cache, the processor converting directories from a storage device layout to a faster representation, the faster representation including a pointer from a directory i-node to an associated hash table.

15. A network storage system, comprising:

an outer cabinet housing memory, an array of storage devices, at least one power supply providing electrical power to the network storage system, and

at least one processor allocating memory for buffer cache and directory cache, the processor converting directories from a storage device layout to a faster representation, the faster representation including a pointer from a directory i-node to an associated hash table.

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